

EXPLORATION TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

April 1, 2009

TO: Internal File

THRU: Steve Demczak, Lead *SD mss*

FROM: Ingrid Wieser, Environmental Scientist II *UW 4/2/09*

RE: Notice of Intent to Conduct Minor Coal Exploration, Canyon Fuel Company LLC, Dugout Canyon Mine, C/007/0039 and Project # 3255

SUMMARY:

On March 23, 2009, Ark Land Company, an Arch Coal Inc. subsidiary, submitted a Notice of Intent to Conduct Minor Coal Exploration to the Division on behalf of Canyon Fuel Company LLC Dugout Canyon Mine. The associated archaeological reports for the drill site were sent ahead of the NOI on March 11, 2009 and were reviewed as task 3252.

The minor coal exploration will consist of one drill hole planned to occur in 2009. The drilling will utilize rubber-tired drilling rigs and will occur within the Dugout Canyon Mine Permit Boundary and on private surface owned by Canyon Fuel Company and the coal will be leased through Utah State Coal Lease (ML-42648).

The exploration area is located approximately 20 miles NE of Wellington, Utah. The proposed exploration hole is located north of Pace Canyon and will be accessed via a county road.

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EXPLORATION TECHNICAL ANALYSIS:

COMPLIANCE DUTIES

Regulatory Reference: 30 CFR 772.13; R645-202.

OPERATIONAL STANDARDS

Regulatory Reference: 30 CFR 772.13; R645-202-100.

Analysis:

Biology

Vegetation

Appendix C of the NOI includes vegetation information as well as threatened or Endangered Species information, which includes a vegetation survey from Mt. Nebo Scientific described below.

- Patrick Collins of Mt. Nebo Scientific Inc conducted a survey in August of 2008 for vegetation of the DUG 07, R02, DUG 08, DUG 09, DUG 10 and H 01 Drill sites and the corresponding reference areas. The survey consisted of vegetation sampling and sensitive plant species survey at each drill site with 100ft. buffer as well as each chosen reference site. (Some drill sites do not have reference areas due to previous disturbances. In these instances, other standards have been selected and approved.) Pat Collins collected qualitative and quantitative data including Cover, composition, woody species density, and photographs.

Results:

~ Drill Site DUG-07/R-02: This site included a Sagebrush/Mountain Brush community with the dominant understory of mountain big sagebrush, snowberry and grasses and an overstory of Utah serviceberry and Douglas Fir. Total living cover was estimated at 51% consisting mostly of shrubs. The woody species density was estimated at 3679/ acre.

The sagebrush/ mountain brush reference area had a significantly higher living cover and woody species density than the proposed drill site area. Therefore, the report recommends that the overstory cover value be excluded and use only the understory cover value for the success standard. Furthermore, it suggests that a lower density value should be used such as 2000 or the current density of the drill site which

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is 3680. Taking those recommendations into account, the understory cover for the reference area was 57 % and consisted primarily of shrubs.

- ~ Drill Site DUG-08: This site was a pre-disturbed site of an aspen/conifer community. It was dominated by big sagebrush, Kentucky bluegrass, hound's tongue (a Utah Noxious weed), and snowberry. Total living cover was 56% consisting mainly of shrubs. The total woody species density was 6138/ acre.

Since this drill site was previously disturbed, the report recommends non-reference area standards. These standards are suggested as follows: Total living cover should be 57% and composition must not include weedy species. Woody species density should be 2000/ acre and no diversity standard is suggested.

- ~ Drill Site DUG-09: This site was a pre-disturbed site of an aspen/ conifer community. It was dominated by hound's tongue and mountain brome. Total living cover was 49% consisting mainly of forbs. Total woody species was 339/acre.

Since this drill site was also previously disturbed, alternate success standards were recommended, these include: Total living cover of 49% consisting of non-weedy species, density of 2000/ acre and no diversity standard.

- ~ Drill Site DUG-10: This site, including the access road, was a Mountain Brush/sagebrush community consisting of pinyon pine, Utah juniper and Douglas fir. Total living cover for this site was 54% consisting mainly of shrubs. Total woody species was 4923/ acre.
- ~ Drill site H-01: This site is proposed to be accessed by helicopter and is a Maple/ Pinyon- Juniper (Conifer/snowberry) community.

Wildlife

The Applicant states that there are no known Federally or State listed threatened or endangered plant or wildlife species within the exploration drill hole area. Water consumption from flows contributing to the Colorado River system can adversely affect four endangered fish species according the USFWS. The Applicant states that there is no known groundwater or surface water flows to the Colorado River System that could be impacted by the exploration drilling practices. Page 3-10 of Volume 2 of the Degas Amendment states that the Division of Water Quality determined that there is no data supporting the premise that surface waters associated with the area of the mine operations reached the Price River or Colorado River prior to or since mining disturbance. Also on this page, the water consumption for drilling degas wells is calculated as zero acre feet per year.

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Located in the second half of Appendix C of the NOI, Pat Collins of Mt. Nebo Scientific prepared a list of Carbon County's Federally listed Threatened, Endangered and Candidate Species as well as a description of why each specie would not be present in the application area. This summary includes habitat exclusions as well as observations during the vegetation survey.

The Applicant stated that the drilling of DUG-09 would occur after July 15th, therefore adhering to any applicable wildlife exclusionary periods. The Applicant identifies the Northern Goshawk calling survey located in the confidential binder of the MRP as pertaining to drill site DUG-09. This survey was conducted in July of 2003 by EIS Environmental & Engineering Consulting and encompasses an area around the drill sites DUG0103 and DUG0203. This was the only potential habitat area identified by the DWR.

The Applicant identifies a calling point survey that was conducted within the permit area by EIS consulting. This was the only potential habitat area identified by the DWR. The Applicant also states that, "additional studies by DW Wiley and F. Howe indicate that the habitat for the owls is in the southern parts of Utah, not in the Bookcliff area proposed for exploration drilling."

In a conversation with Vicky Miller on March 30, 2009, Vicky stated that the areas previously surveyed for MSO and Goshawks in 2003 (see reports in Confidential MRP volume 2 of 4) were the only areas identified by the DWR that contained suitable habitat for the MSO or Goshawk. Therefore, areas outside the previously inventoried sites did not need to be surveyed. Furthermore, the vegetation identified in the report (appendix C) is not consistent with either MSO or Goshawk habitat. It is a pre-disturbed area with no dense canopy. Page 3-18 of Chapter 3 of the MRP states that Tony Wright of the DWR indicated that a survey should be done only if disturbance is proposed on a dense canopy found in sections 21 and 17. DUG-09 is located in section 14.

Historical and Archaeological Information

The Division received the archaeological reports on March 11, 2009. The Applicant sent the reports ahead of the official NOI in order to speed up the process of receiving SHPO concurrence. The reports were reviewed by Joe Helfrich as task 3252. The Division notified the Applicant of approval of the reports and forwarded them to SHPO for concurrence on March 24, 2009. See internal Memo for task #3252 (2009 Internal File 013) for details of the reports.

Findings:

The information provided in the application is adequate to meet the minimum regulatory requirements. The application can be approved pending SHPO concurrence, which was requested in task 3252.

RECLAMATION STANDARDS

Regulatory Reference: 30 CFR 772.13; R645-202-200.

Analysis:

Revegetation

Page 9 of the NOI application includes the revegetation description for the drill site. The seed mixture to be used includes Kentucky bluegrass, Mountain Brome, Sandberg Bluegrass, Bluebunch Wheatgrass, Bottlebrush Squirrealtail, Rocky Mountain Penstemon, and Wyoming Big Sage. All are native species and are adequate to reclaim the drill site.

In the vegetation survey report (Appendix C), Pat Collins describes the vegetation of drill site DUG-09 and success standards. Since the site was previously disturbed and dominated by a noxious weed, Dr. Collins has suggested that the success standards area as follows: Total living cover should be 49% and woody species density should be 2000/ per acre, also, living cover must be dominated by desirable native non-weedy plant species.

Findings:

The information provided in the application is adequate to meet the minimum regulatory requirements.

RECOMMENDATIONS:

The Application is recommended for approval pending SHPO concurrence of task # 3252.